

FIG. 1

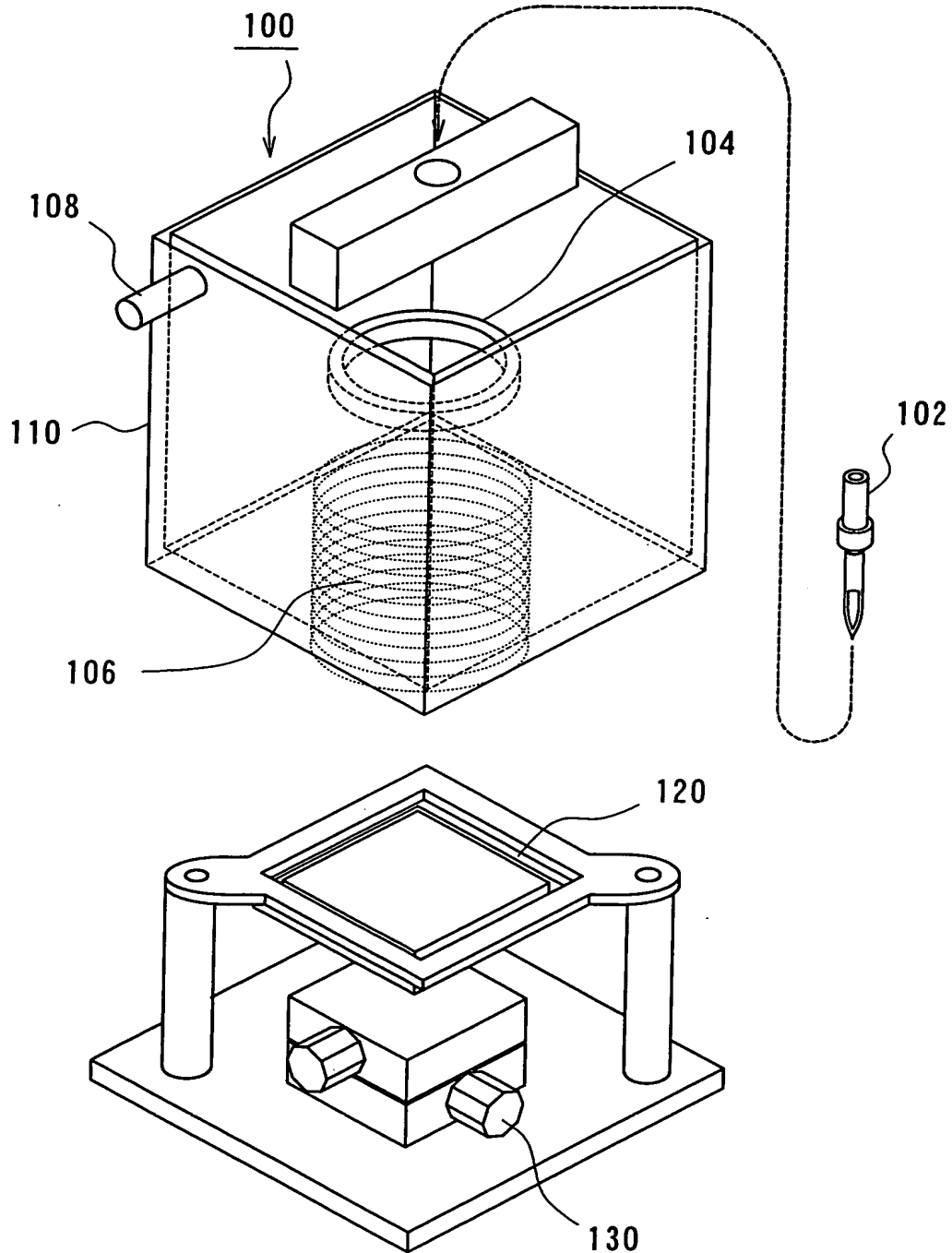


FIG. 2

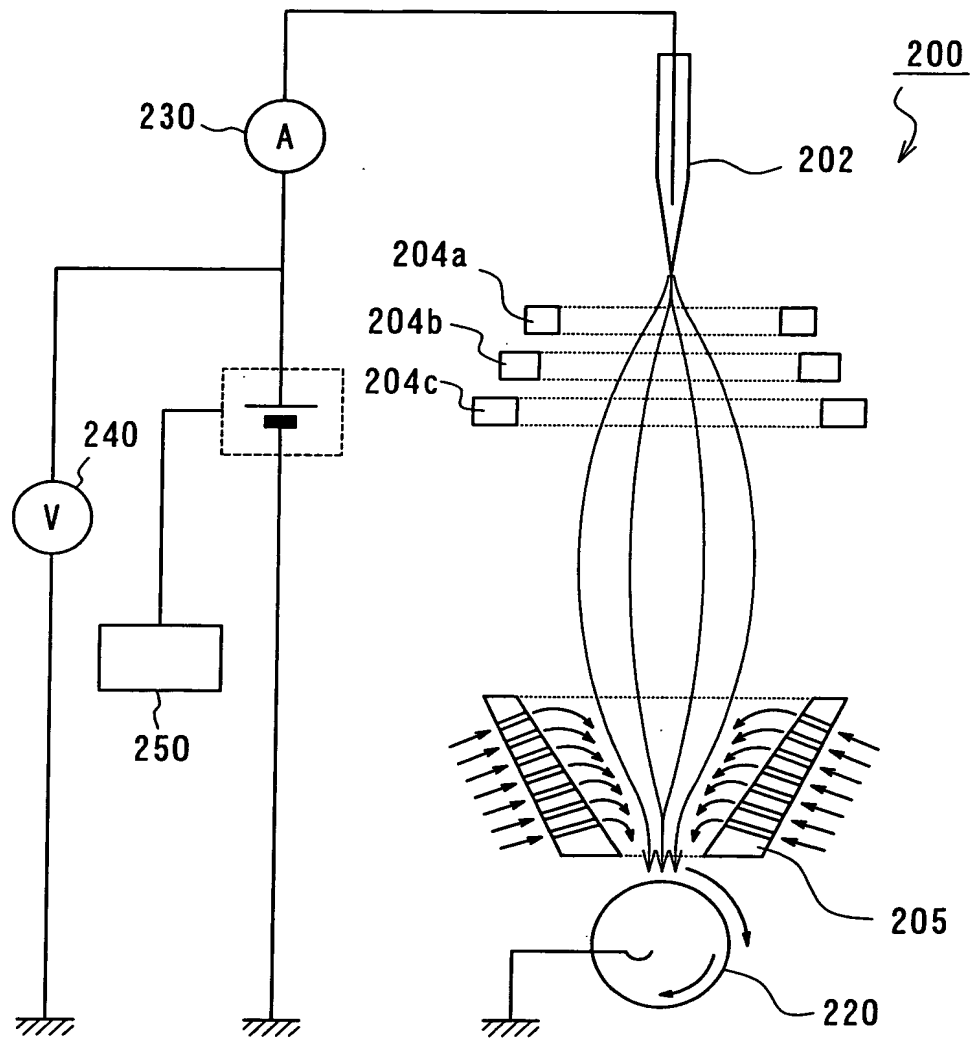


FIG. 3

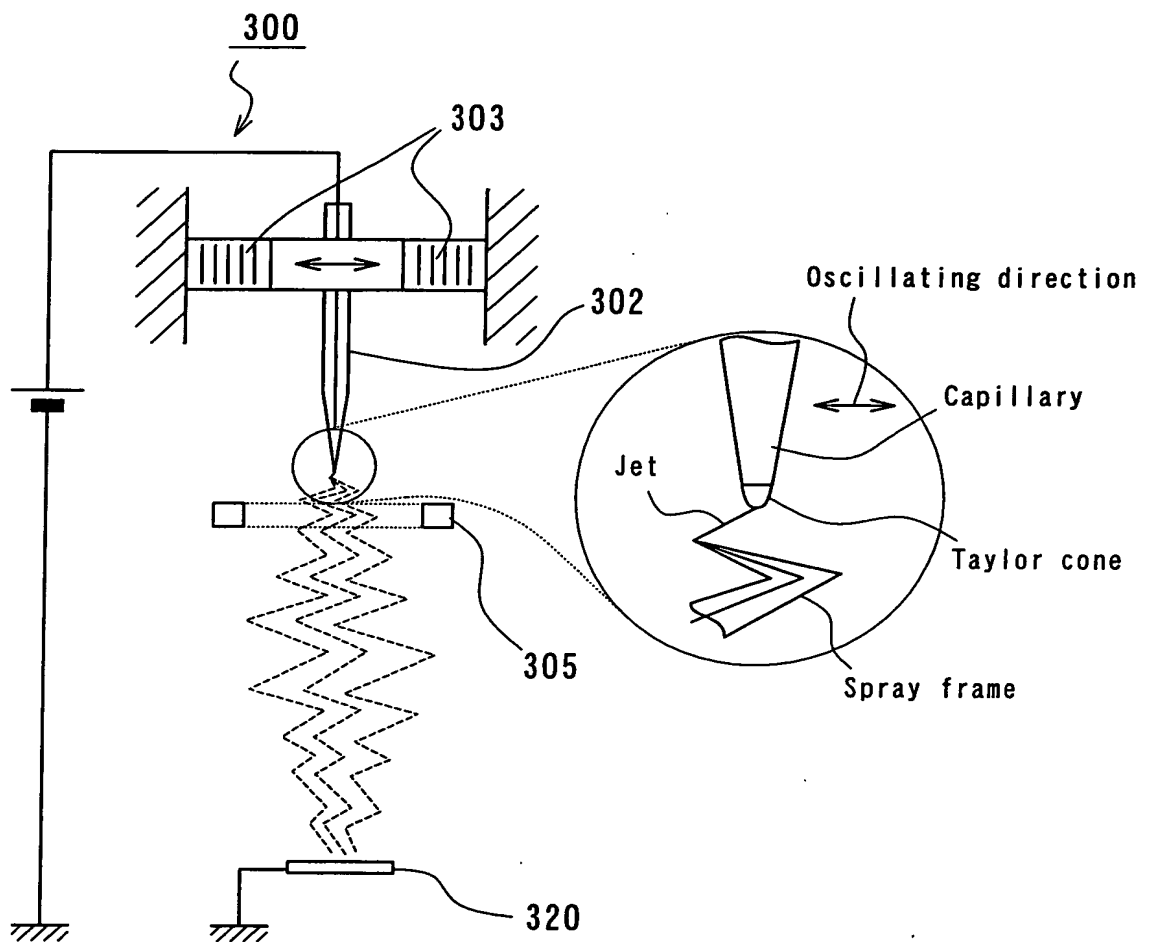


FIG. 4A

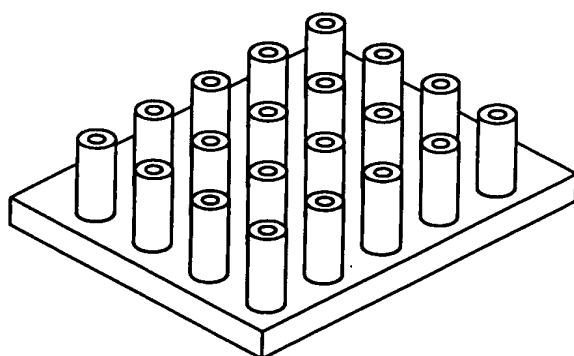


FIG. 4B

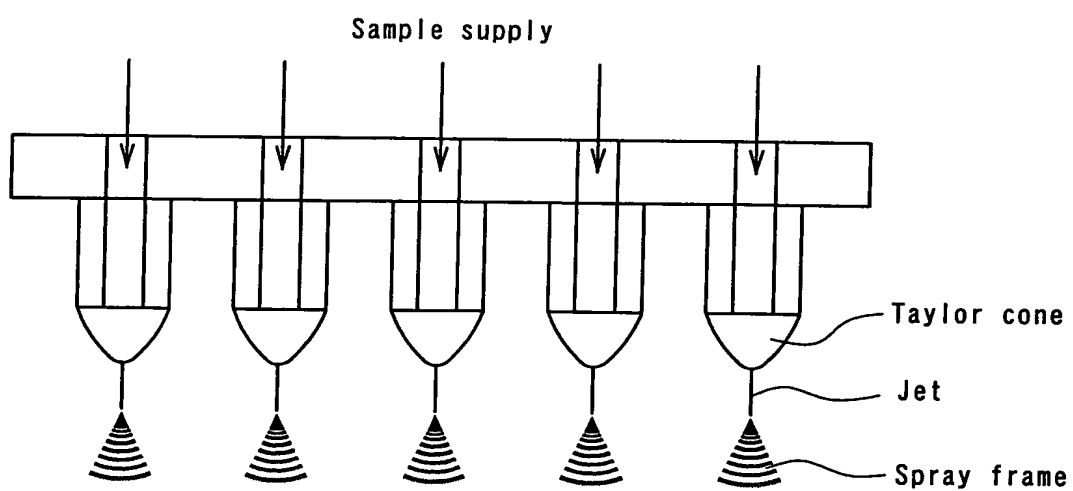


FIG. 5

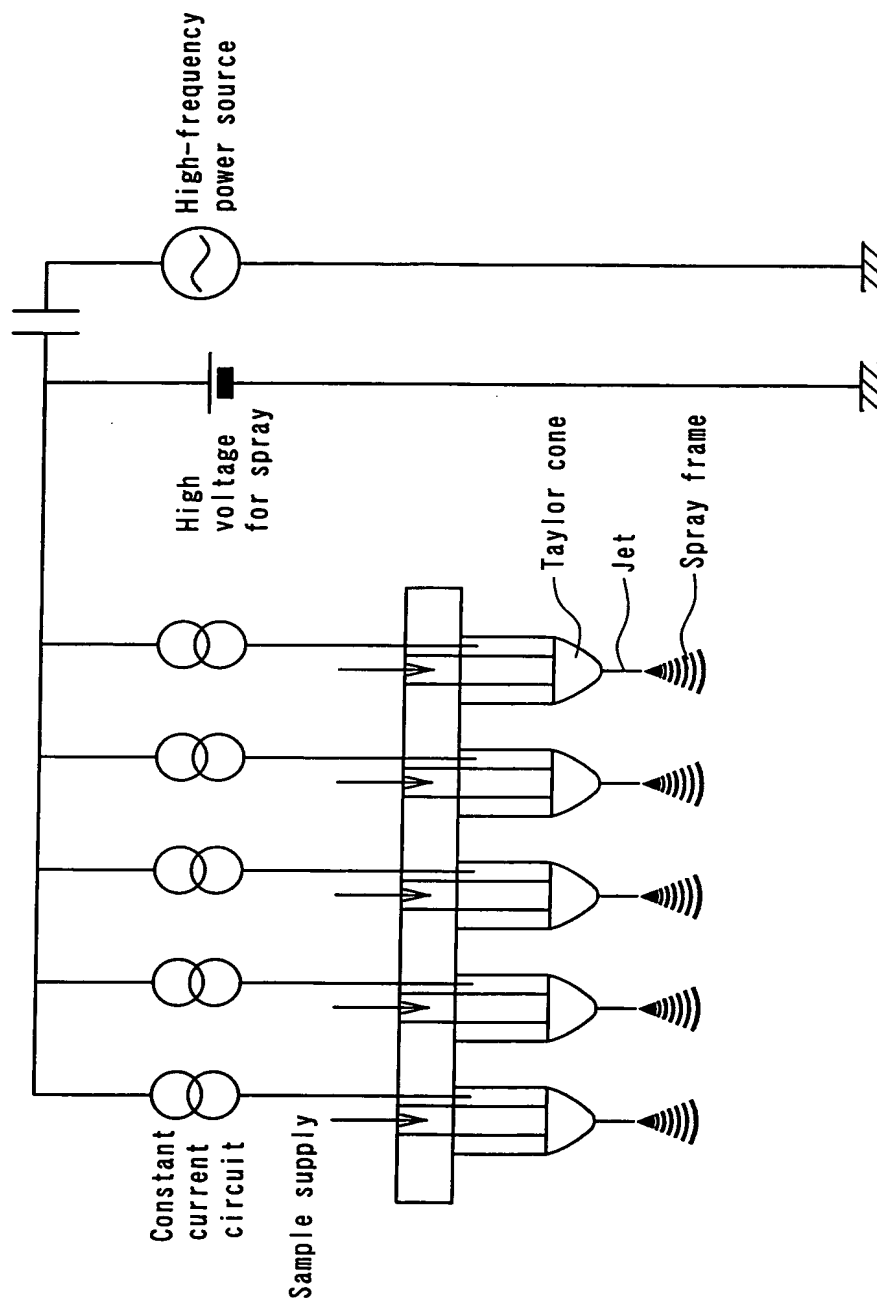
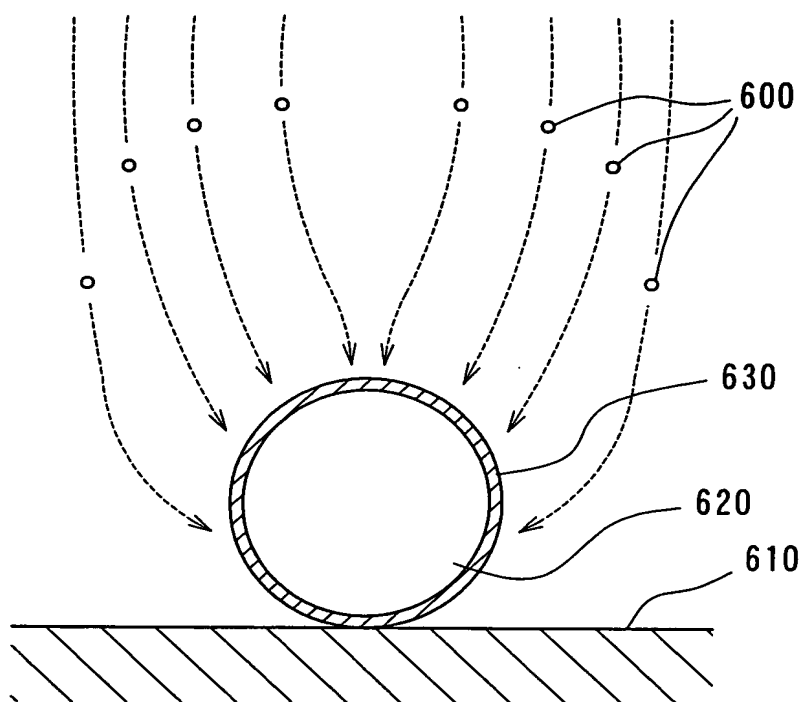


FIG. 6

The diagram illustrates a nanofiber/particle spraying apparatus. A vertical assembly is shown, including a capillary for spray (748) containing a sample solution. This capillary is connected to a high voltage for spray source (700). The spray of nanofiber/particle (720) is directed towards a substrate (710). An ion wind (742) is generated by a high-frequency power source (740) and directed at the spray. A wavy line (746) represents the nanofiber/particle being collected or manipulated. The entire system is grounded at the bottom.

FIG. 8

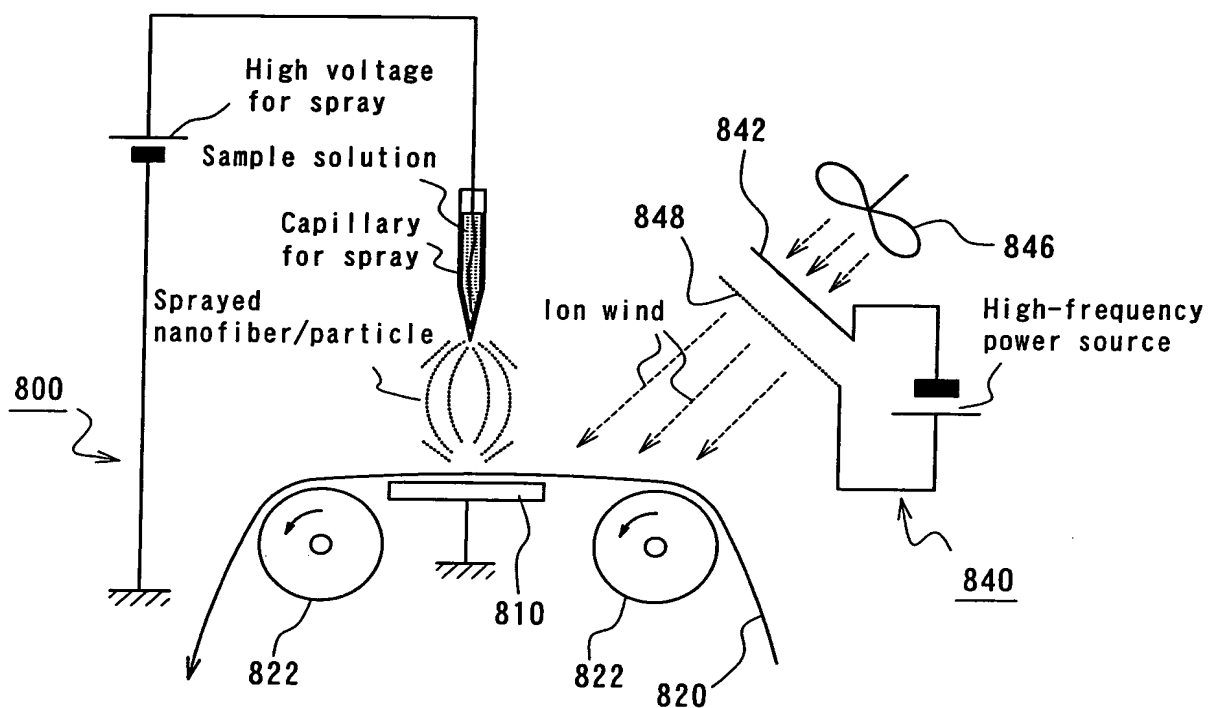


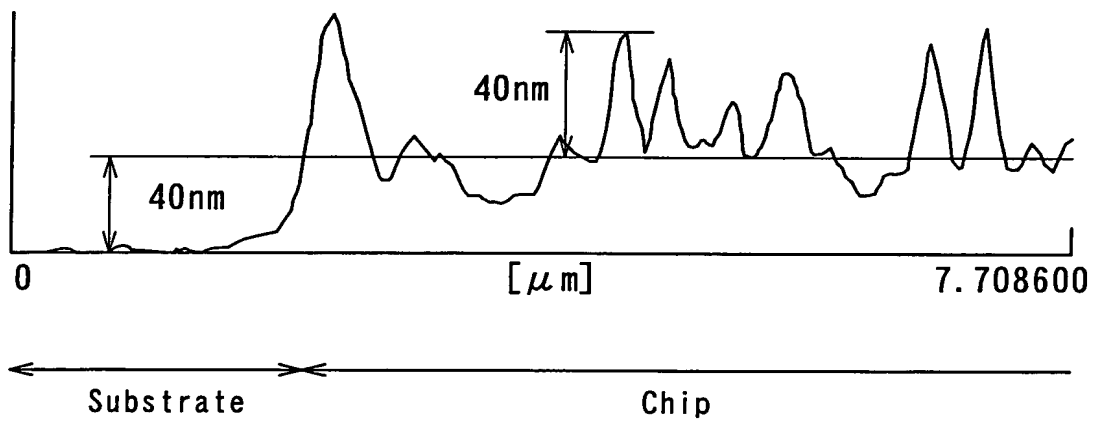
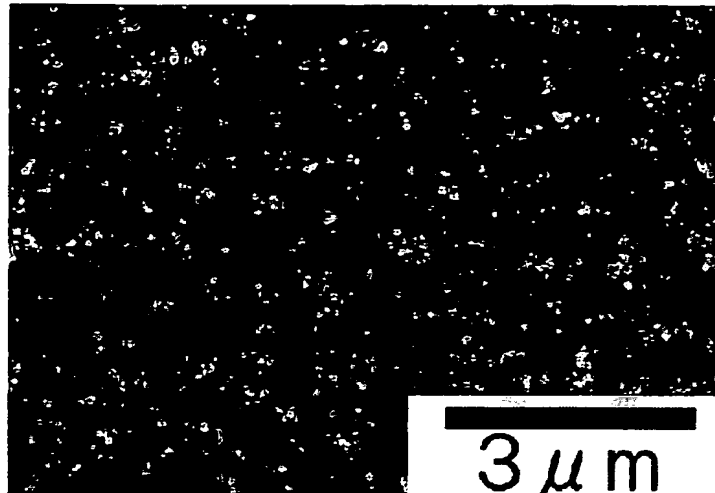
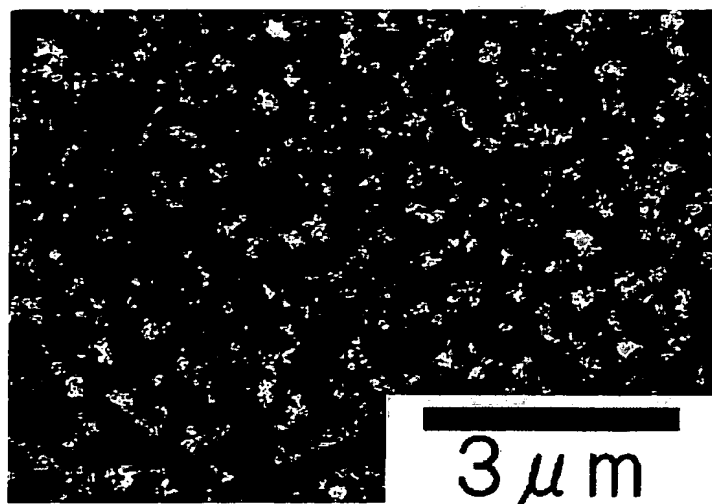
FIG. 9

FIG. 10



10 min.

FIG. 11



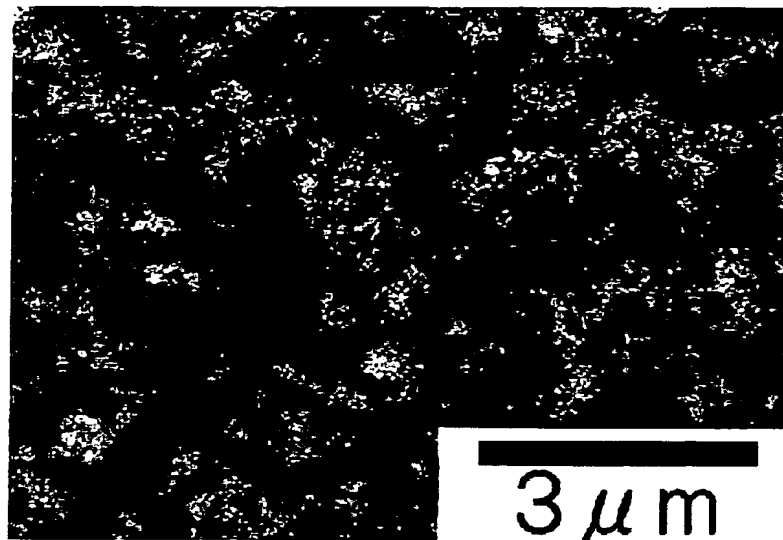
30 min.

FIG. 12

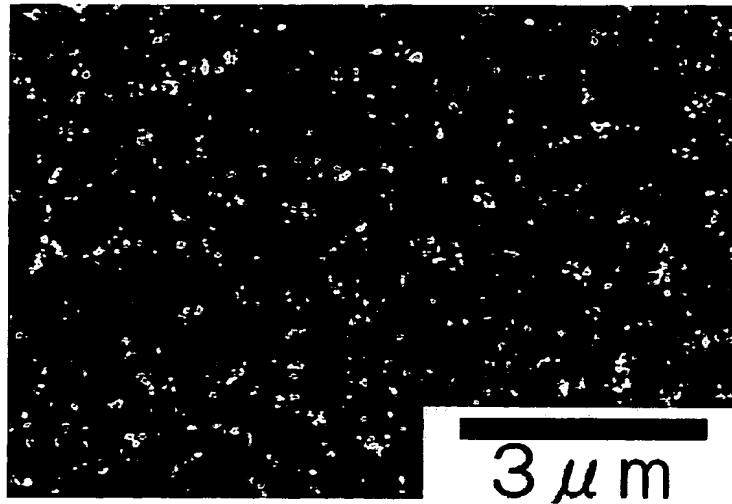


60 min.

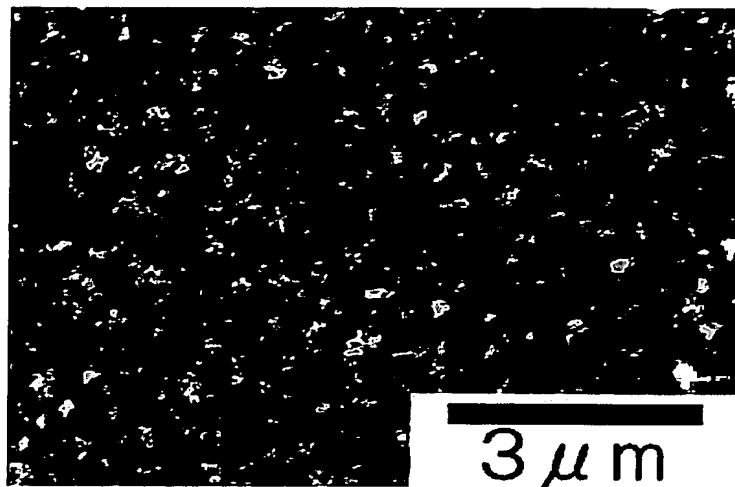
FIG. 13



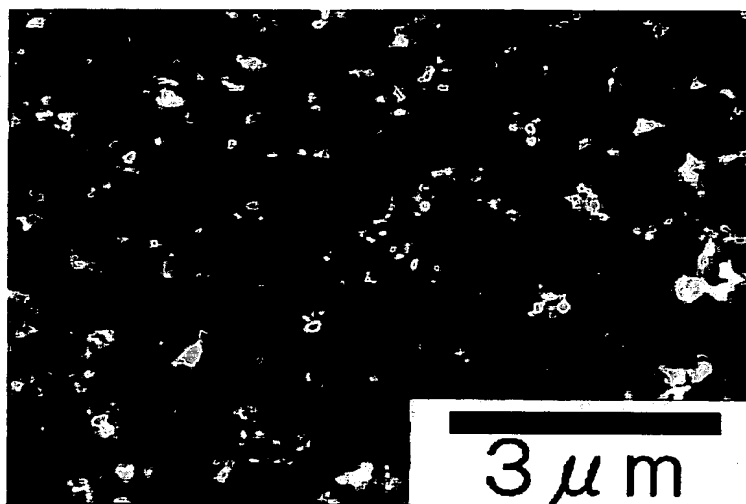
120 min.

FIG. 14

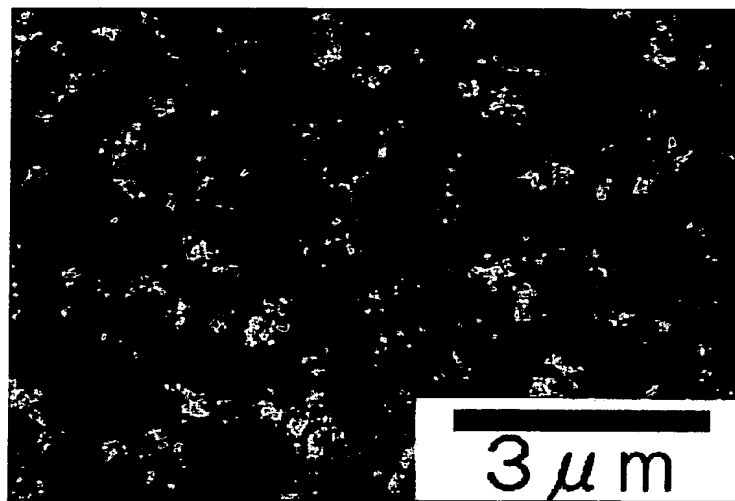
0.5g/L

FIG. 15

1.25g/L

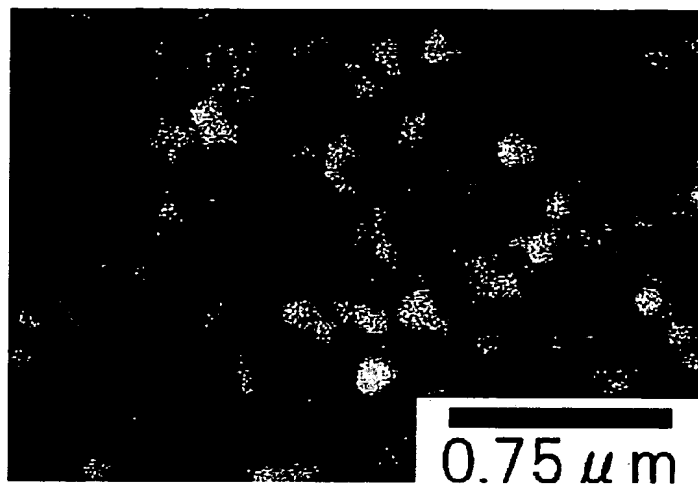
FIG. 16

2.5g/L

FIG. 17

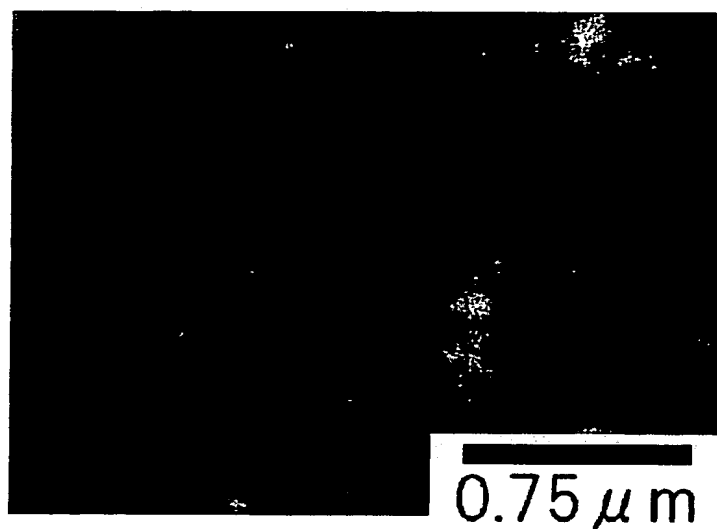
5.0g/L

FIG. 18

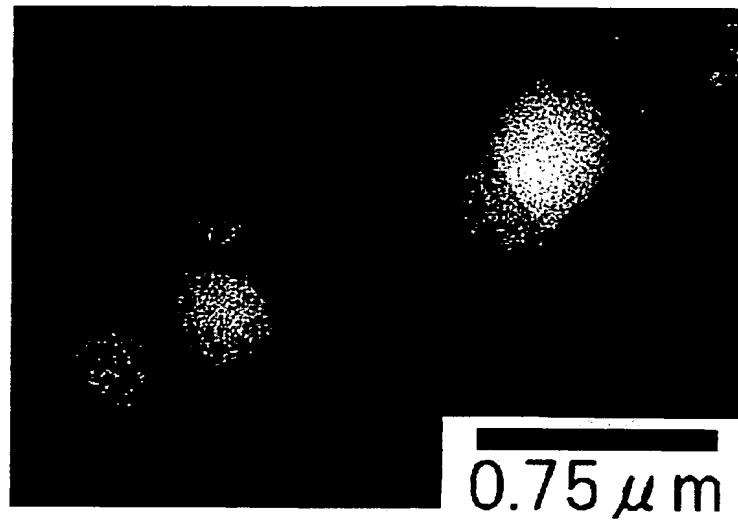


invertase

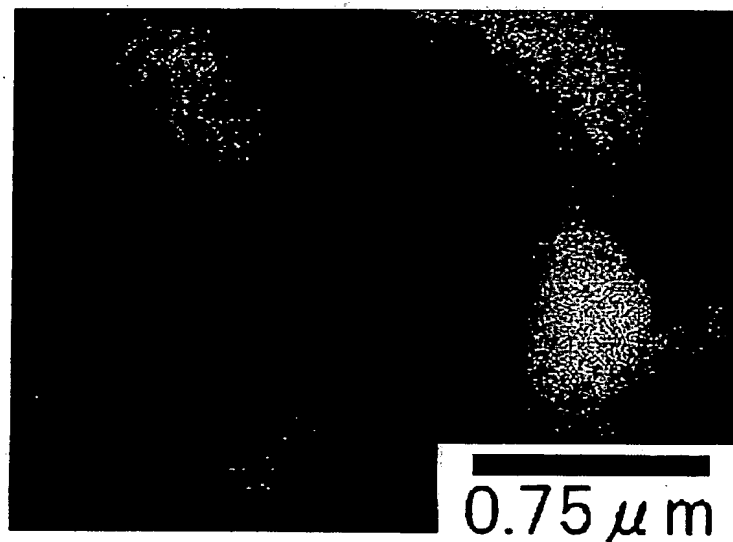
FIG. 19



α -lactalbumin

FIG. 20

PAA 250k

FIG. 21

PEG 500k

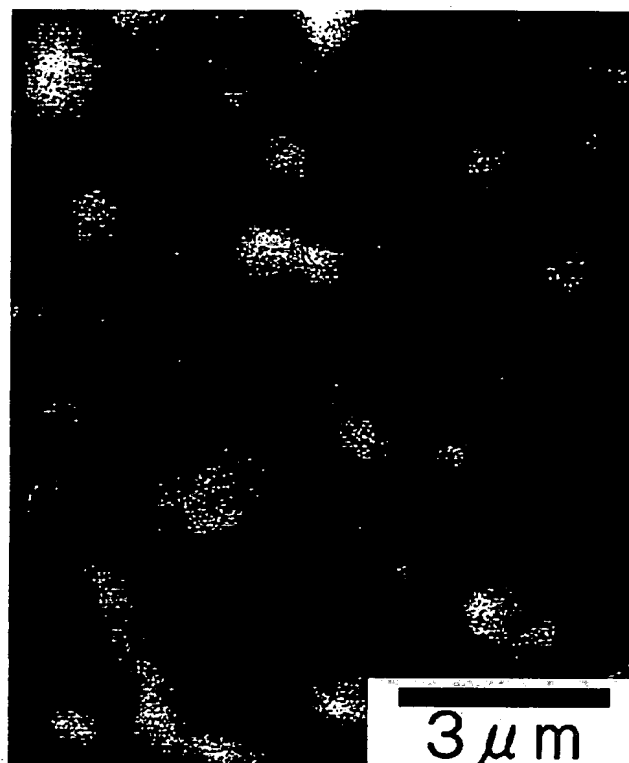
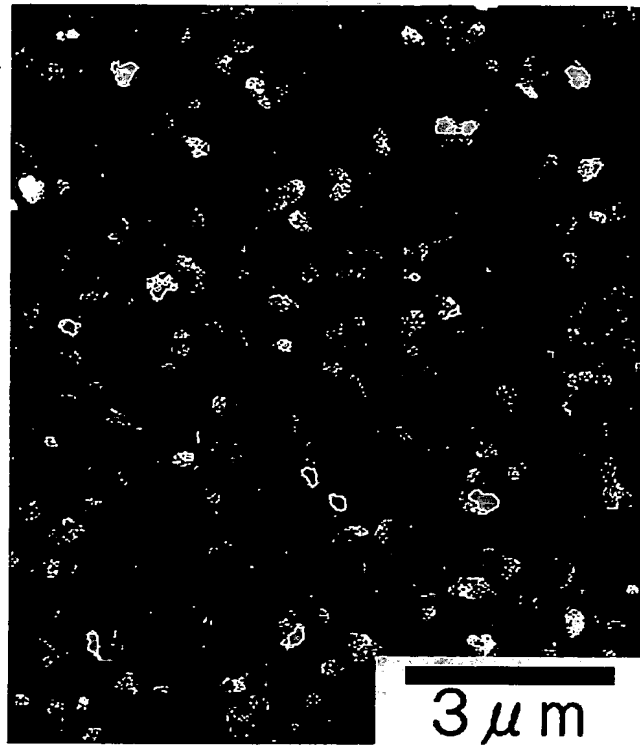
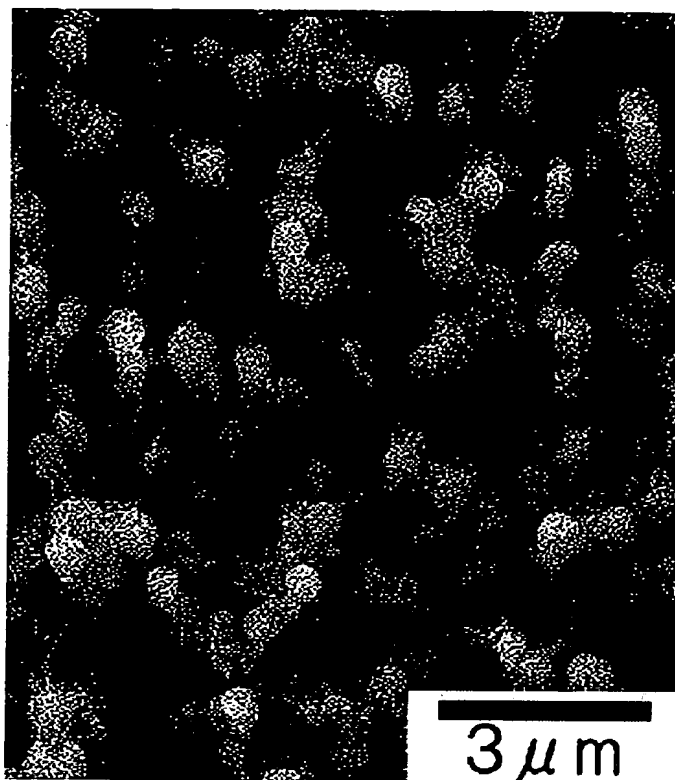
FIG. 22**PEG 4k**

FIG. 23



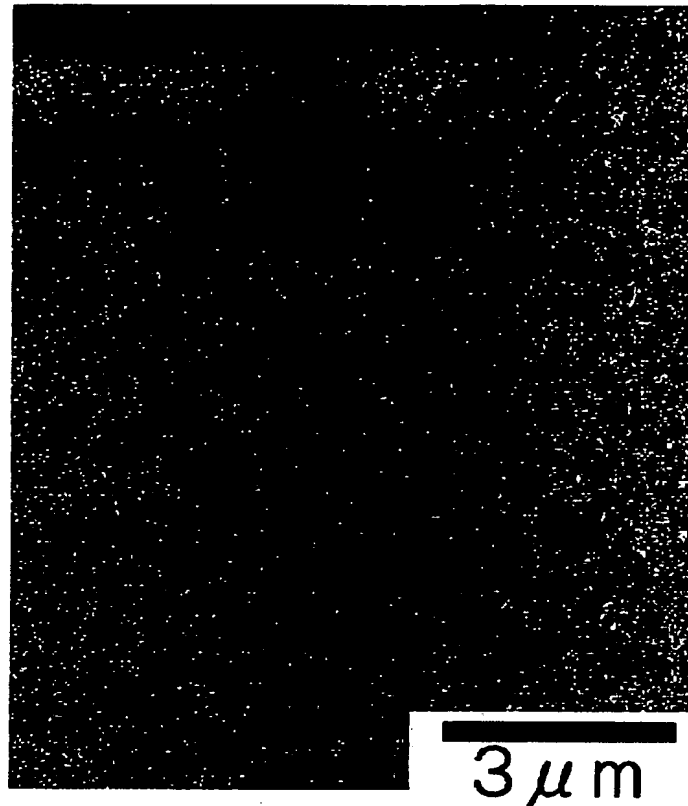
PEG 20k

FIG. 24



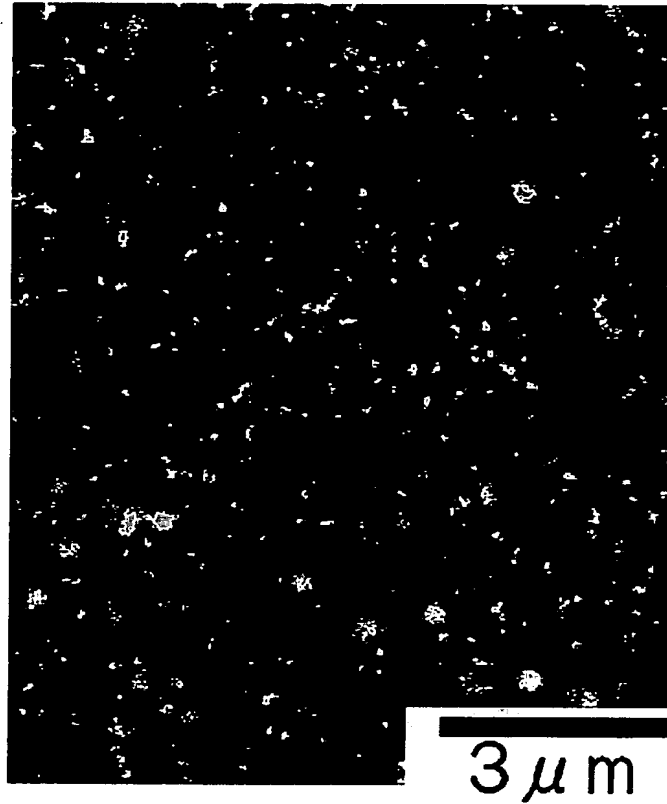
PEG 500k

FIG. 25



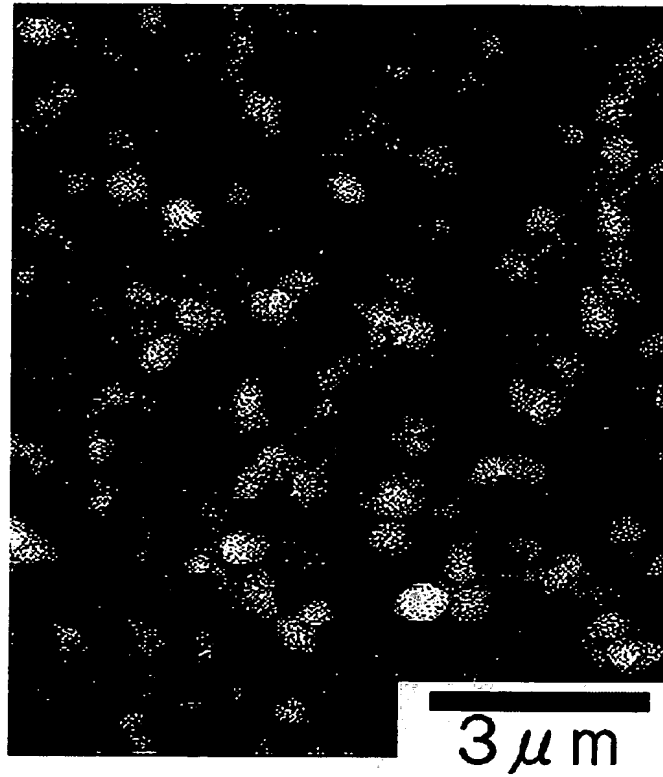
PAA 4k

FIG. 26



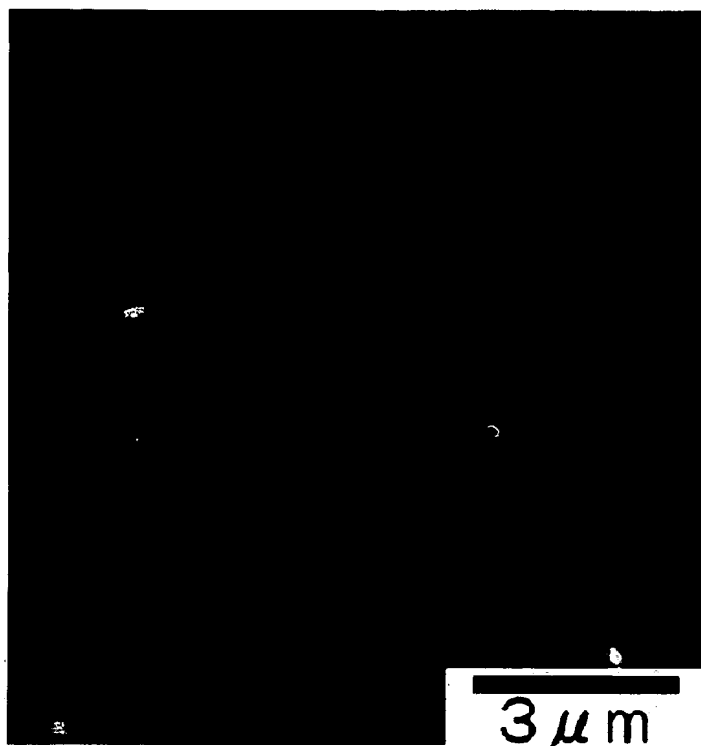
PAA 25k

FIG. 27



PAA 250k

FIG. 28

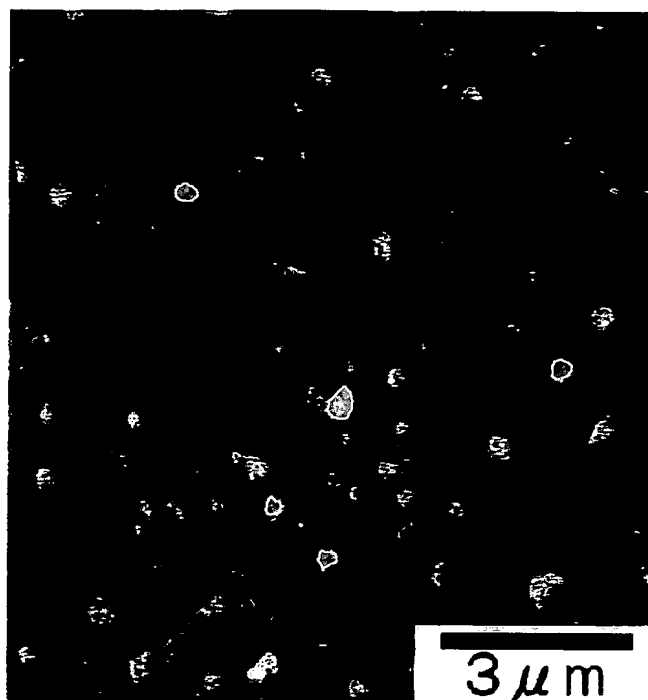


5 min.

10/546008

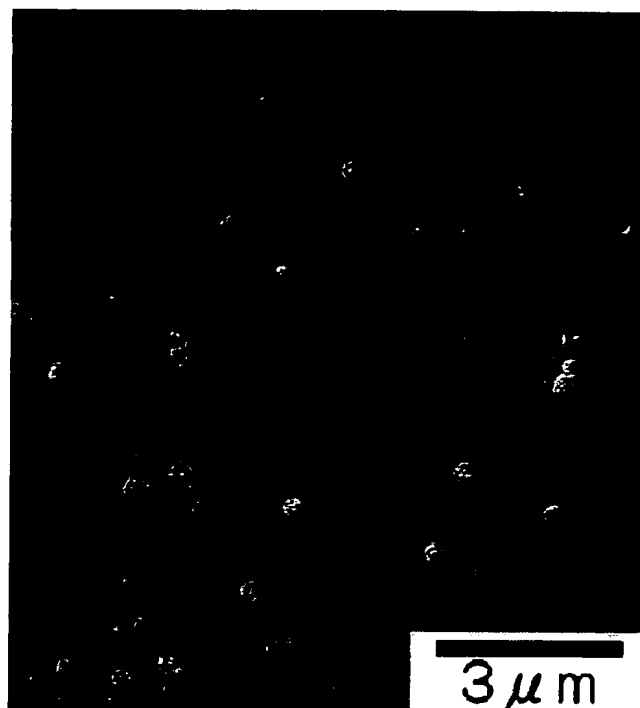
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FIG. 29

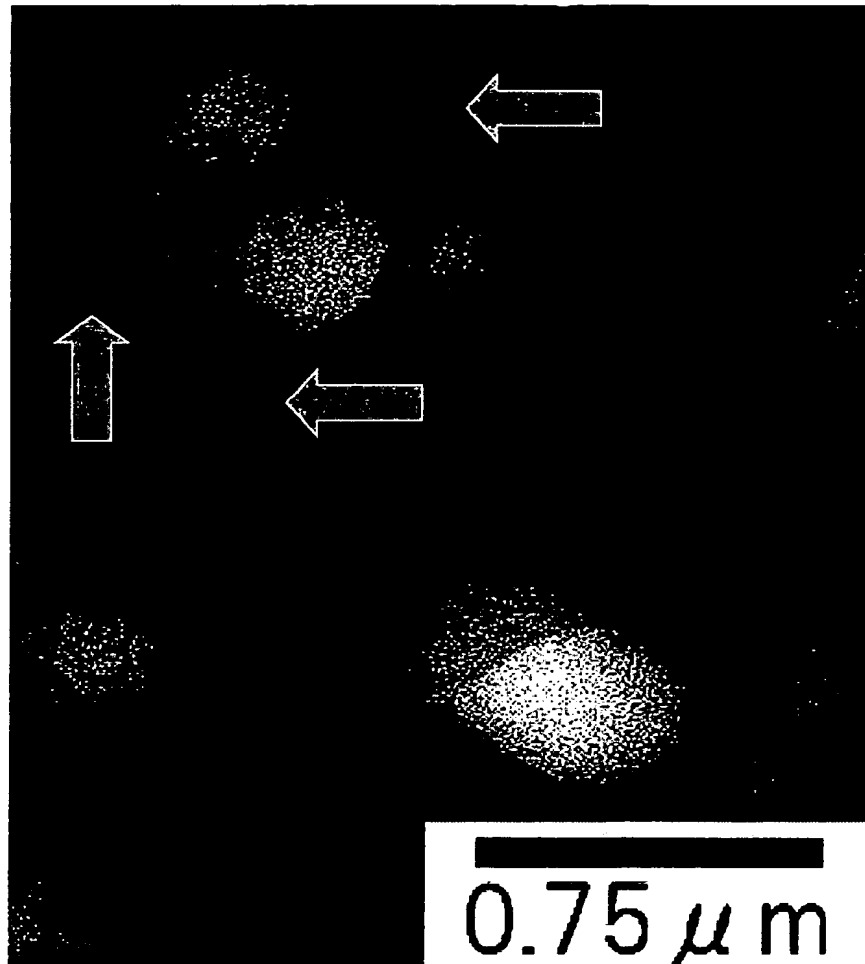


10 min.

FIG. 30

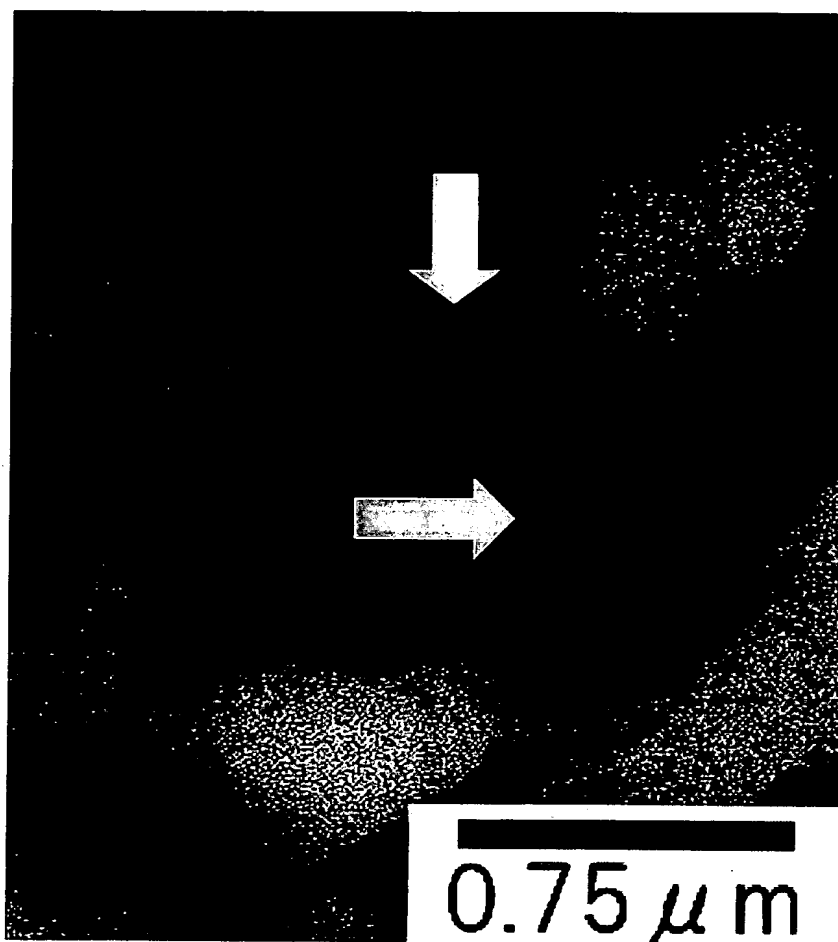


30 min.

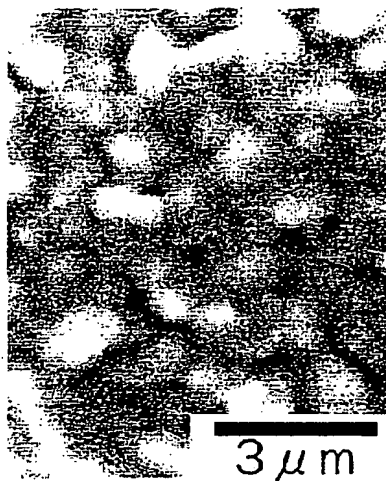
FIG. 31

PAA 250k

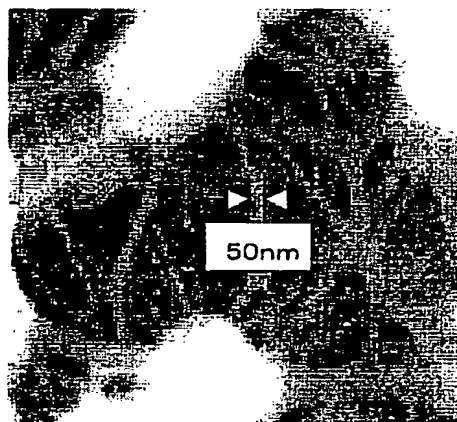
FIG. 32



PEG 500k

FIG. 33

Nanocoating
(M. W. 30, 000)

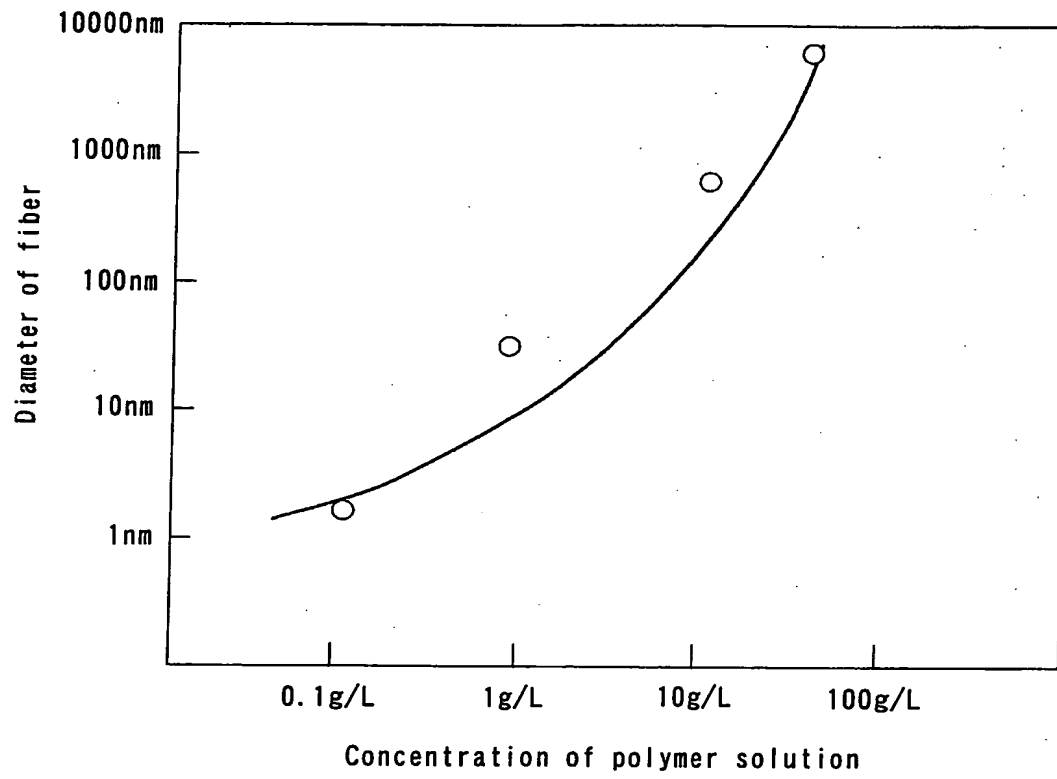
FIG. 34

Nanofabric
(M. W. 500, 000 solution,
1g/L conc.)

FIG. 35

Microfabric
(M. W. 500, 000 solution,
20g/L conc.)

FIG. 36



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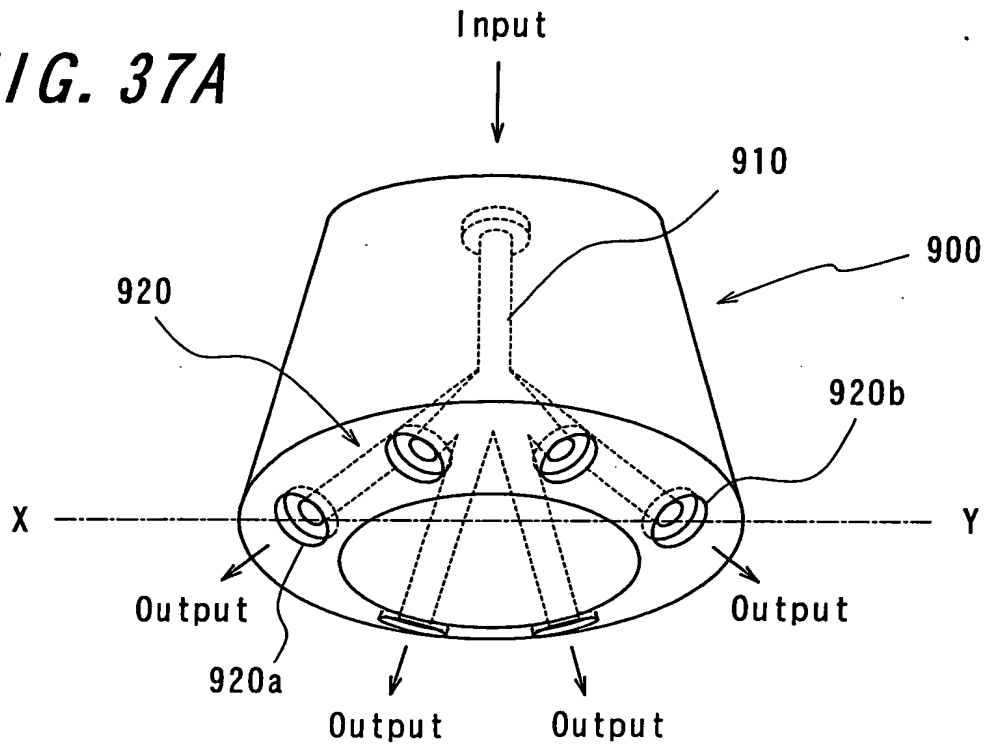
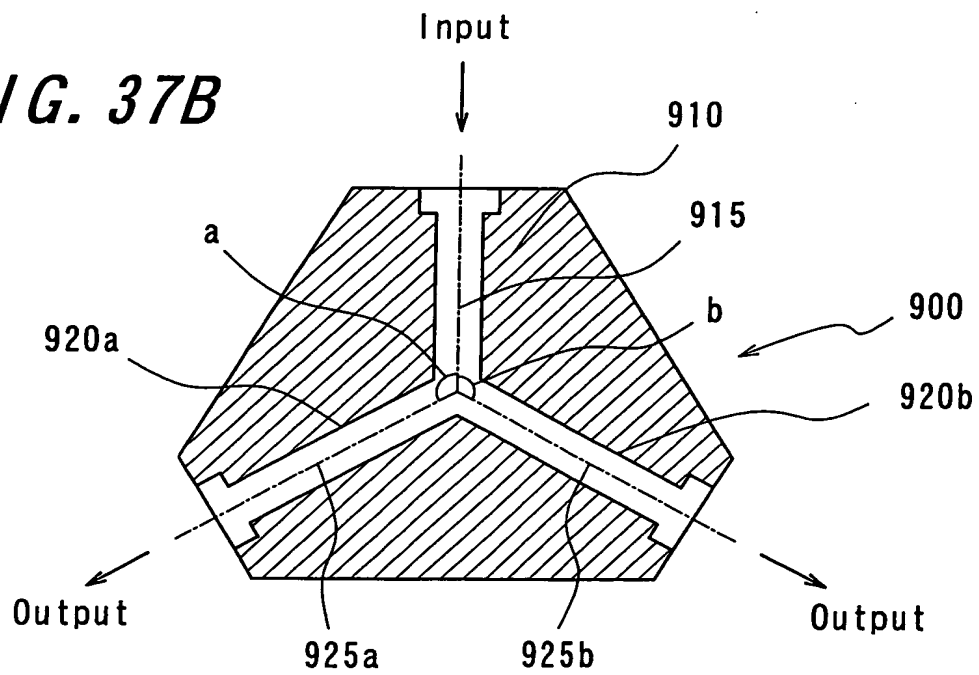
FIG. 37A**FIG. 37B**

FIG. 38A

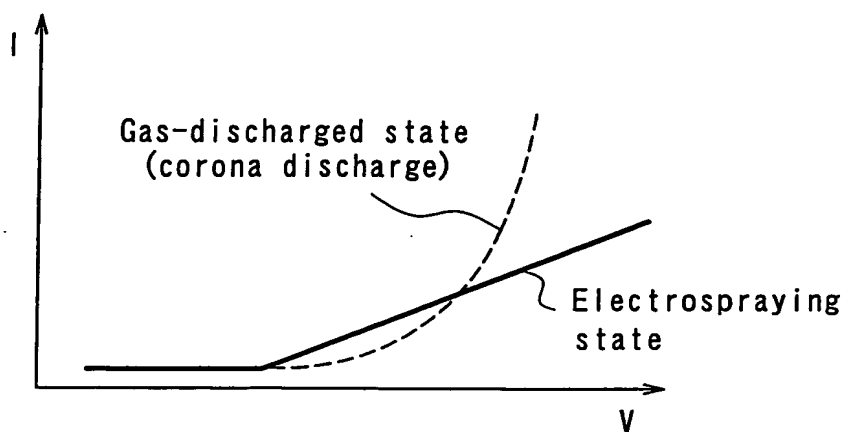


FIG. 38B

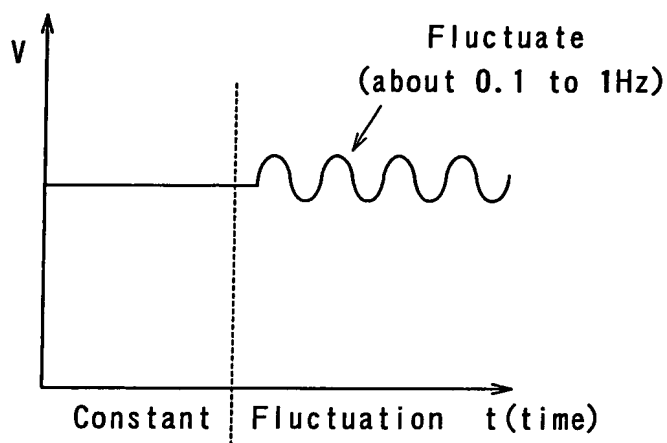
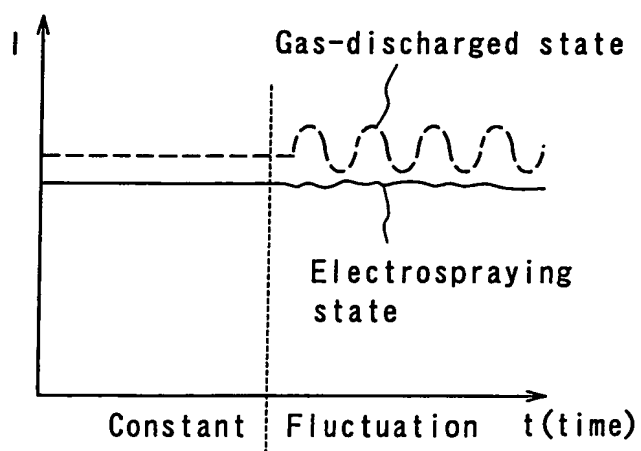


FIG. 38C



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FIG. 39A

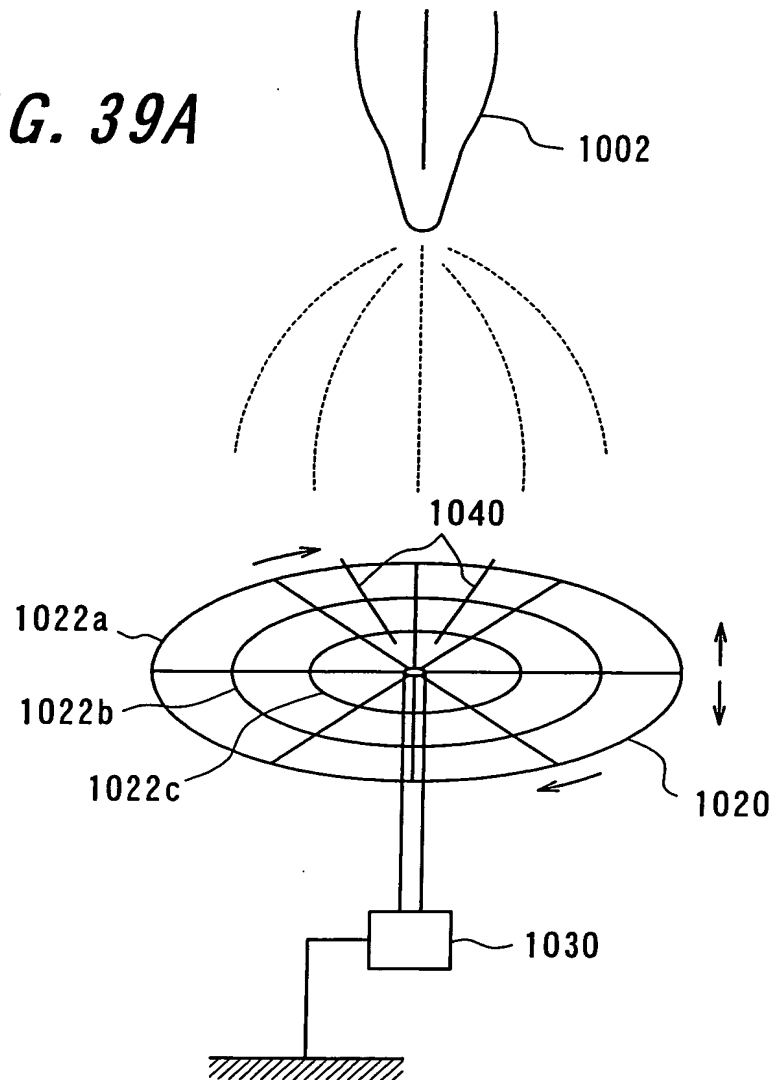
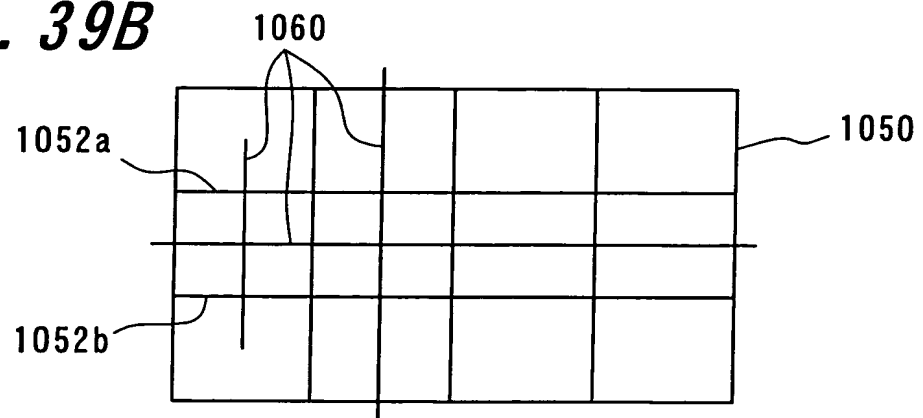


FIG. 39B



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FIG. 40

